

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-8. (previously canceled)

1 ~~9~~. (currently amended): A method of forming a gate dielectric layer of a trench field-effect transistor, the method comprising the steps of:

- (a) forming a trench in silicon on a substrate; and
- (b) heating the substrate to at least about 1,100°C to form a first layer of silicon oxide at least about 100Å thick inside the trench; and

(c) forming a layer of silicon nitride on the first layer of silicon oxide.

2 ~~10~~. (currently amended): The method of claim ~~9~~ further comprising the steps of:

- ~~(e) forming a layer of silicon nitride on the layer of silicon oxide; and~~
- (d) forming a second layer of oxide on the layer of silicon nitride.

5 ~~11~~. (currently amended): The method of claim ~~10~~ ¹/₉ wherein the layer of silicon nitride is about 120Å thick.

6 ~~12~~. (currently amended): The method of claim ~~10~~ ¹/₉ wherein the layer of silicon nitride is a conformal layer of silicon nitride formed using a low-pressure chemical-vapor deposition process ~~is used to form a conformal layer of silicon nitride.~~

3 ~~13~~. (currently amended): The method of claim ~~11~~ ²/₁₀ wherein the second layer of oxide is about 50Å thick.

8 ~~14~~. (currently amended): A method of forming a gate dielectric layer of a trench field-effect transistor, the method comprising:

- (a) forming a trench in silicon on a substrate;
- (b) heating the substrate to at least about 1,100°C to form a first layer of silicon oxide at least about 100Å thick in the trench;
- (c) forming a conformal layer of silicon nitride about 120Å thick on the layer of silicon oxide by a low-pressure chemical-vapor deposition process; and
- (d) growing a second layer of oxide about 50Å thick on the layer of silicon nitride.

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9 ~~15~~. (new): The method of claim ~~14~~ further comprising the step of:
(e) forming a conductive gate material on the second layer of oxide, the conductive gate material substantially filling the trench,
wherein the first layer of silicon oxide, the conformal layer of silicon nitride, and the second layer of silicon oxide together form the gate dielectric layer of the trench field-effect transistor.

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10 ~~16~~. (new): The method of claim ~~14~~ wherein the trench forming step further comprises the steps of:

- (f) forming a body layer on the substrate, the body layer being of opposite conductivity type to that of the substrate; and
- (g) forming a trench extending through the body layer and into the substrate.

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4 ~~17~~. (new): The method of claim ~~10~~ further comprising the step of:
(e) forming a conductive gate material on the second layer of oxide, the conductive gate material substantially filling the trench,

wherein the first layer of silicon oxide, the layer of silicon nitride, and the second layer of silicon oxide together form the gate dielectric layer of the trench field-effect transistor.

7 ~~18.~~ (new): The method of claim ~~9~~¹ wherein the trench forming step further comprises the steps of:

(f) forming a body layer on the substrate, the body layer being of opposite conductivity type to that of the substrate; and

(g) forming a trench extending through the body layer and into the substrate.
